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INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference J 1495 HO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/US 03/08492	International filing date (day/month/year) 18.03.2003	Priority date (day/month/year) 27.09.2002
International Patent Classification (IPC) or both national classification and IPC B01F5/04		
Applicant JOHNSONDIVERSY, INC. et al.		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of sheets.

- This report contains indications relating to the following items:
 - ☒ Basis of the opinion
 - ☐ Priority
 - ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - ☒ Lack of unity of invention
 - ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - ☐ Certain documents cited
 - ☐ Certain defects in the international application
 - ☐ Certain observations on the international application

Date of submission of the demand 15.10.2003	Date of completion of this report 10.08.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Voutsadopoulos, K Telephone No. +49 89 2399-2922 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/US 03/08492**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-19 as originally filed

Claims, Numbers

1-13 as originally filed

Drawings, Sheets

1/5-5/5 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/US 03/08492**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees, the applicant has:

- ☐ restricted the claims.
☒ paid additional fees.
☐ paid additional fees under protest.
☐ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.
☐ not complied with for the following reasons:

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☐ all parts.
☒ the parts relating to claims Nos. 1-5,13 .

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-5,13
	No: Claims	
Inventive step (IS)	Yes: Claims	1-5,13
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-5,13
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US 03/08492

Reference is made to the following documents:

D1: US-A-5 522 419

D2: EP-A-1 129 659 (S.C.JOHNSON COMMERCIAL MARKETS,INC) 5 September
2001 (2001-09-05)

I. Basis of the report.

This opinion has been drawn for the inventions relating to claims 1-5 and 13 for which the applicant has paid the examination fee.

IV. Lack of unity of invention.

This Authority considers that there are two inventions covered by the claims indicated as follows:

I: Claims 1 to 5 directed to an air gap eductor with a particular spray guard

II: Claim 13 directed to an air gap eductor with a particular flow bypass.

The reasons for which the inventions are not so linked as to form a single general inventive concept, as required by Rule 13.1 PCT, are as follows:

Compared with the closest prior art document D1 (or D2), the special technical feature of claim 1 is that the spray guard is porous.

Compared with the closest prior art document D2, the special technical feature of claim 13 is that the bypass channel comprises a plurality of spaced grooves extending in the direction of through flow.

From the above it is clear that there are no common or corresponding special technical features, in the sense of Rule 13.2 PCT, between the independent claims 1 and 13, which address solutions to separate technical problems (see also the summary of the invention, pages 4 to 7 of the description) .

V. Reasoned statement under Article 35(2).

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/US 03/08492

1. Document D1 (or D2) can be regarded as the closest prior art to the subject-matter of claim 1. The latter differs from the known air gap eductors in that the spray guard is porous. This porosity improves the collection of fine mist and disperses energy and water when the water jet is misaligned.
The problem to be solved by the present invention may therefore be regarded as to improve the function of known air gap eductors.
The solution according to claim 1 is not known and is not fairly suggested in the available prior art.
Accordingly, claim 1 meets the requirements of Art. 33(2) and 33(3) PCT.
2. Claims 2-5 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.
3. Document D2 can be regarded as the closest prior art to the subject-matter of claim 13. The claimed eductor differs from the known air gap eductor in that the bypass channel comprises a plurality of spaced grooves extending in the direction of through flow.
The effect of this feature is a reduction in back filling of the bypass channel without changing the size or geometry of the eductor casing.
The problem to be solved by the invention can therefore be seen as to provide a more efficient eductor device.
The solution according to claim 13 is not known and is not fairly suggested in the available prior art.
Accordingly, claim 13 meets the requirements of Art. 33(2) and 33(3) PCT.